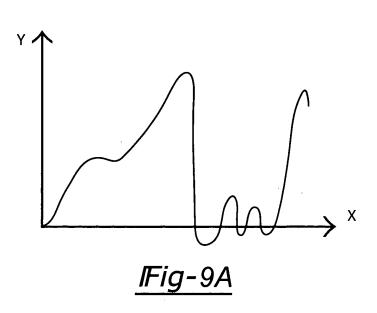
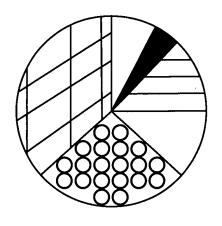
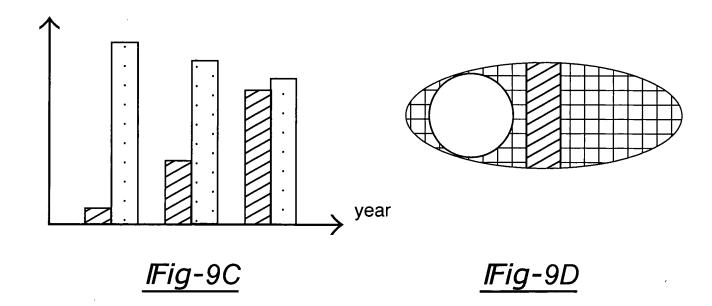
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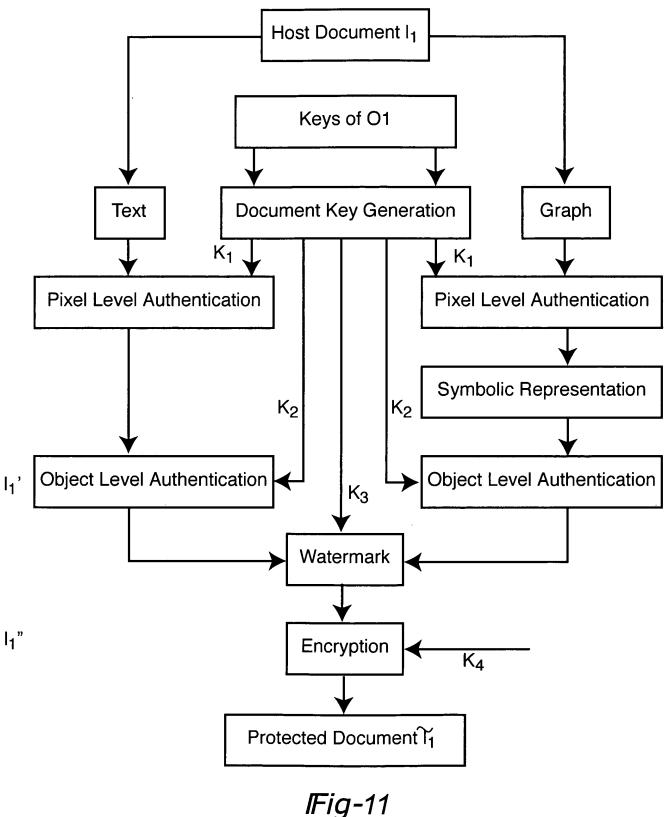


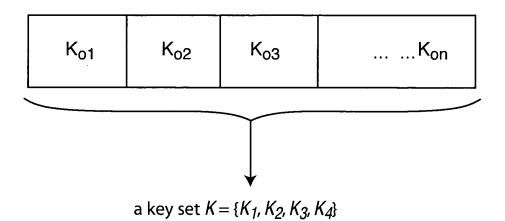
*lFig-*9B



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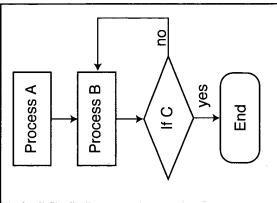
IFig-12

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Relationship symbols	
<>	a tuple
^	and
U	or
≠	not
→	parent → child
_ ⇒	sibling relation
\leftrightarrow	twin relation
←	child ← parent
>	contain relation
1	condition
•	
•	•
:	unconnected
Specification symbols	
&	size
#	shape
@	position
©	color

*IFig-*13

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Process A Process B Proces
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The system flow diagram is illustrated below. It shows the simplicity of the

®, @mid}→N2{'Process B', #1,

algorithm... "<N1{'Process A', #1,

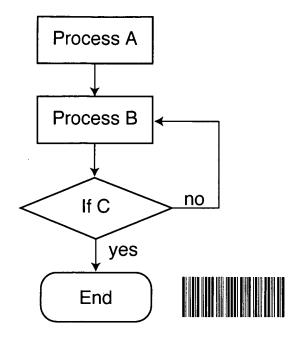
®, @mid}→N3('If C', #3, ®, @mid}→< N4('End', #2, ®,

@mid}lyes; N2Ino>>"

	W/o content-c	W/o content-dependent one way hash	Our algorithr	Our algorithms, w/ content-dependent one way hash	one way hash
(Text)	Traditional line spacing	Traditional serif length	Coalescing	Object level	Duel level with coalescing
Special coding	Needed	Needed	May or may not needed	May or may not needed	May or may not needed
Imperceptibility	Good	Good	OK	Good	Good
Detectability	Bad	Bad	ЮК	Good	Good
Pixel-level detectability	Bad	Bad	Good if Method I OK if Method II	Can't detect	OK
Localization-ability	Bad	Some bad. Some OK	УО	Good	Good
Copy and print	Bad	Bad	Good if Method I, bad if Method II	Good	Good
Noise resistance-ability	Bad	OK	Good if Method I, bad if Method II	Good	Good
Robustness to scaling	Good	ОК	Good if Method I, bad if Method II	Good	Good

IFig-18

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IFig-16

auth

(a) Original size



yes

Ţ yes

(c) Original size

(d) Enlarged

IFig-17